

Spring 2012

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Gregory H. March

*University of Tennessee*, gmarch@utk.edu

Benjamin Darnell

*University of Tennessee*, bdarnell@utk.edu

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### Recommended Citation

March, Gregory H. and Darnell, Benjamin (2012) "Partnering to Teach Orienteering: The UT Libraries' and UT Outdoor Program's Experience," *The Southeastern Librarian*: Vol. 60 : Iss. 1 , Article 5.

Available at: <https://digitalcommons.kennesaw.edu/seln/vol60/iss1/5>

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# Partnering to Teach Orienteering: The UT Libraries' and UT Outdoor Program's Experience

**Gregory H. March and Benjamin Darnell**

Gregory H. March is a Map/GIS Librarian at the Hodges Library at the University of Tennessee and can be reached at [gmarch@utk.edu](mailto:gmarch@utk.edu). Benjamin Darnell is the Outdoor Program Director at the University of Tennessee and can be reached at [bdarnell@utk.edu](mailto:bdarnell@utk.edu).

## Introduction

Working with departments on campus to foster and support learning is a fundamental component of the University of Tennessee (UT) Libraries' service philosophy. Academic libraries that have a broader view of the traditional liaison model and seek to develop unique and non-departmental relationships can raise their profile on campus (Dahl 2007, 3). An example of such a relationship, one that has provided a real-life collaborative learning experience for students, is the partnership between the UT Libraries and the University of Tennessee Outdoor Program (UTOP) to teach orienteering.

Orienteering is an activity where people use a map and compass to successfully navigate a designated course in the outdoors. In the fall of 2006, the Map/GIS Librarian suggested to UTOP's director that working together to teach orienteering could be an excellent use of both the Libraries' and Outdoor Program's resources and expertise. In the spring of 2007, the first map and compass basics outdoor workshop was held. Since then, additional collaborative outdoor workshops have taken place off campus during fall and spring semesters. In the fall of 2010, the map and compass basics workshop was revised in collaboration with UTOP's new director. This successful partnership between the UT Libraries and UTOP to offer orienteering training has grown and has provided benefits to all involved.

## Literature Review

The topic of teacher-librarian collaborative relationships within a university setting has been addressed in the literature, along with how libraries can promote their services through collaboration and outreach. Dewey (2004) states that librarians who collaborate and embed themselves in as many venues on campus as possible can help move a university forward. Johnson, McCord, and Walter (2003) discuss the advantages of integrating information literacy instruction across academic disciplines. Dahl (2007) further suggests that the role of the traditional liaison librarian be expanded to target non-academic units on a university campus. The topic of outdoor education, leadership, and training is also addressed. Wagstaff (2009) describes core fundamental competencies for outdoor leaders to include a theme of leadership, facilitation, technical ability, program management, environmental stewardship, self-awareness, and professional conduct. Based on this theory, educators must have a clear sense of their own abilities and limitations. This, in turn, will guide the direction of training initiatives either within the agency or in conjunction with external organizations. Martin (2010) focuses on the strategy of combining traditional education models with experience-based learning. By adhering to this model, students are able to process the learning experience and develop their professional growth, as educators and practitioners.

## Technology and Orienteering

With so much technology at one's fingertips, it is easy to forget what life was like before there were computers, mobile phones, and Global Positioning Systems (GPS). GPS technology has many advantages, but it has also contributed to people becoming disconnected from their surroundings. If a GPS malfunctions, or if the batteries run out, an individual without the necessary skills or equipment could get lost or be put in a life threatening situation.

If people know the basics of using a compass with a map, they are less likely to get lost. Before portable GPS technology was available, people used large scale topographic maps and compasses to help them navigate on land. Large scale topographic maps, where 1 inch equals 24,000 inches, were created by the United States Geological Survey (USGS) in the early 1900's, and were mainly used for land planning and development, and scientific research. Topographic maps use contour lines to project land elevation three-dimensionally on a two-dimensional surface, and the maps' large scale allows people to calculate distance fairly accurately. As more and more of these large scale maps were produced by the USGS, they became useful not only for governmental and scientific purposes, but also for recreational purpose. By the 1940's, people interested in camping, fishing, and hiking used topographic maps and a compass to navigate in wilderness areas. The map and compass basics workshop was developed to offer core navigation competencies to students of an Outdoor Leadership class administered by UTOP and to the university community as well. These skills are useful to anyone venturing outdoors, but are especially necessary to outdoor educators responsible for the job of delivering safe, educational programs while managing risk in an unpredictable outdoor environment. Orienteering helps to sharpen memory, aids

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with decision-making and communication skills, teaches self confidence, and familiarizes people with their surroundings. Understanding the basics of navigating with a map and compass will reduce the risk of people getting lost outdoors, and more importantly, saves lives.

## The Libraries' Contribution

The UT Libraries serve its community by providing beneficial resources, knowledge, and information. The UT Libraries Mission states:

- We connect people to the world's scholarship through every available medium.
- As leaders, collaborators, and innovators, we enable our communities – in
- Tennessee and beyond – to discover quality scholarship and create knowledge.

The UT Libraries Map Services Unit has a sizeable print map collection which is used regularly by the campus community. University departments from varying academic disciplines tour Map Services to learn more about its collections, and staff provide instruction on how to use materials within the collection. The library also has GPS units available for checkout to UT students, faculty, and staff. Basic instruction with recreational GPS units is also available. UT affiliates who are not familiar with how GPS equipment can be used, can take some time with Map Services staff to learn the basics of operating a recreational GPS unit. Map staff can demonstrate the functions of the GPS and point the patron to additional resources. The full list of equipment provided by the library for the workshop:

- Topographic maps of the area where the compass course will be taught
- A recreational Global Positioning System (GPS) handheld unit to help create the compass course. Recreational GPS units usually have an accuracy of between 10 – 30 meters depending on the GPS unit. The accuracy of a recreational GPS is usually adequate for setting up a course, but it's likely that waypoints will need to be checked
- Simple base plate compasses if needed
- A custom topographic map and control card (used when reaching a control checkpoint) with directions for navigating the course
- Orienteering markers, pin flags, and needle punches used in conjunction with the control card
- Plastic clipboards and pencils to hold map and control card

The Map/GIS Librarian used a GPS to help set up the course. GPS waypoints (physical location on the earth's surface using a set of coordinates) were entered into the GPS at designated control checkpoints on the orienteering course. The Map/GIS Librarian then downloaded the GPS waypoints to a computer and created a draft topographic map using Geographic Information System (GIS) software in conjunction with additional geospatial data. The instructors (Map/GIS Librarian and UTOP Director) returned to the field with the draft topographic map to determine the accuracy of the GPS data vs. where orienteering markers, pin flags, and natural and manmade features (trees, buildings) were located. A revised custom topographic map was then created by the Map/GIS Librarian.

### **The UT Outdoor Programs' Contribution**

The University of Tennessee Outdoor Program (UTOP) is designed to provide its

university community with outdoor opportunities that emphasize skill acquisition, leadership development, environmental awareness and fun. As a part of this charge, the Outdoor Program developed a Student Outdoor Leadership Education, or SOLE, program. Students who take part in this educational experience have the opportunity to design, plan, implement, and manage outdoor adventure activities. The UTOP Director sought better and more efficient methods for training and program development after realizing that this is a huge endeavor for one full-time staff member. During this process, it became clear that a portion of the student's skill development and training is, in fact, transferable. Outdoor education relies on the fact that those who teach adventure-based activities must master core competencies before attempting to lead others in this type of environment. Decision making is a part of these core skills and one of the most difficult skills to teach new instructors (Wagstaff 2009, 3). Wagstaff defines the role of judgment in decision making as, "an estimation of the likely consequences of such a decision or course of action. Effective judgment relies on experience and knowledge as a basis for estimating likely consequences" (Wagstaff 2009, 4). By embracing the idea of collaboration and seeking strong partnerships with other University departments, UTOP has assisted in creating a map and compass navigation course that is largely managed by UT Libraries' Map Services. This workshop also serves as a tool to demonstrate the decision making process, which involves taking an inventory of the best and available resources that helps meet the educational outcomes for the student leaders. "Outreach from academic libraries takes many forms, often built around a commitment to instruction" (Johnson, et al., 20, 2003). Thus a mutually beneficial partnership between Map Services and the Outdoor Program has evolved. Outdoor Program Instructors create and facilitate activities that

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correspond to the goals of the UT Division of Student Affairs:

*to provide students with an engaging and enlightening atmosphere of living and learning. The Division is committed to an uncompromising respect for diversity, strong partnerships with University programs and support of the University's academic mission.*

Librarians are in a unique position to engage in initiatives and activities on campus so that the university can advance and achieve its mission (Dewey 2004, 10). UT Libraries' Map Services collections offer a vast amount of information and specialization, and the Map/GIS Librarian's knowledge in the art of land navigation has helped the Outdoor Program Staff provide opportunities for the students to apply learned technical skills in scenarios of increasing difficulty. In addition to a minimum level of fitness and an understanding of technical and social skills, safe travel in a wilderness environment is necessary for the Outdoor Program trip instructors, and when used correctly, can be applied in other areas to attain similar results.

### **Workshop Planning**

The instructors met at the UT RecSports Facility to start planning the workshop. Planning began with determining where to have the workshop. In the past, workshops were held at Ijams Nature Center in Knoxville, Tennessee, but the Map/GIS Librarian desired a new location because some natural and manmade features found at

Ijams Nature Center made it difficult to learn basic land navigation skills. The UTOP Director contacted a private land owner and was granted permission to host the workshop. The orienteering course was set up by the instructors and orienteering control checkpoint locations were confirmed by the Map/GIS Librarian before the finished map was created. The instructors supplied compasses and handouts for students to use while navigating the compass course. As for participants, the UTOP Director suggested that this workshop would be a good fit for students participating in the SOLE Program.

### **The Workshop**

The instructors suggested that participants bring a compass (preferably with a sighting mirror) of their own because equipment was limited. The orienteering course began with a lesson on how to read a topographic map and how to adjust a compass for magnetic declination (Figure 1). Magnetic declination is calculated by taking the difference from true north on map (north arrow follows longitudinal lines on globe towards the North Pole), and magnetic north on map (north arrow points towards the current location of the magnetic north pole). It is important to have an up-to-date map when orienteering because the magnetic north pole moves due to consistent changes in the earth's magnetic field. Students were then taught how to orient their maps with their compasses (Figure 2). This part of the workshop is very important and normally encompasses between one or two hours of explanation and hands-on practice.



Figure 1: Instructors teaching participants how to adjust their compasses for magnetic declination.

Once the compass is adjusted for magnetic declination, the easiest way to orient a map is to place the compass on top of the map. Students learn to turn the map until the compass needle is aligned (parallel) with the

north/south neat line on the map (Figures 2 and 3). They become aware that red = north and white = south. Students learn that this is an easy way to accurately orient the map with the compass.



Figure 2: Learning to orient a topographic map with a compass.



Figure 3: Map oriented correctly with the compass needle parallel with the Grid North arrow on map.

Ensuring that the map and compass are oriented properly is the most important lesson of the orienteering workshop. Now the group is ready to begin the outdoor

course. The participants work as one group (Figure 4), and the instructors help with questions about how to navigate the course.



Figure 4: A group begins the orienteering course with help from the Map/GIS Librarian.



Figure 5: Students use a custom topographic map of the course area and a control card with directions for following the course. When arriving at a control checkpoint on the course, they are asked to use the needle punches with their control card. Since each needle punch has its own unique pattern, the instructors are able to track if a student arrives at the correct checkpoint.

## Conclusion

The map and compass workshop was held on Saturday morning and was not as well attended as anticipated. Of the fifteen registered students, only three participated. Determining how to better market to a broad range of students and how to increase registration and participation is a priority. The decision was made to schedule future workshops on a weekday evening, which is a more conducive time for students. Since the instructors work in different departments, it was not always easy to schedule time to meet in person, so most of the planning was done via email.

This partnership helped both the Library and the Outdoor Program recognize the value of this workshop. The learning opportunities provided for the participating students exceeded expectations. Social learning theory suggests that students involved in this type of collaborative learning environment learn not only from their own actions but also through the actions of others. This type

of teaching focuses on the relationship between learning and the social contexts where learning occurs (Martin 2010, 42). The Map/GIS Librarian has seen more students visit Map Services since the first map and compass workshop was held in 2007. This has helped the library to raise its profile on campus. Students are asking about the collections and wanting to learn more about training with map and compass. Both departments provided students with the resources and knowledge needed to be successful in the art of land navigation, which can potentially decrease the chances of life threatening emergencies in the outdoors. After seeing that students entering the SOLE Program lacked skills in land navigation, the Outdoor Program Director determined that this course should be a mandatory part of the Outdoor Leadership curriculum and has developed more training utilizing these learned navigational skills. This year's winter training included the development of an adventure race with the focus on technical skills, leadership



development, wilderness medicine, and a focus on navigational competencies. Another idea for the future could include designing a map and compass workshop for the academic library environment. Orienteering teaches team building, confidence, communication, and leadership skills, and is designed to bring people together to solve a problem. This hands-on workshop could be added as part of a library social event. Individuals from different departments within the library could engage with one another as part of a library retreat. The Map/GIS Librarian could tailor a map and compass workshop for members of the library and develop a program so that librarians could then lead their own

workshop to train other librarians. Subject librarians could use this workshop to open communication with their subject area faculty as part of a library-sponsored event. This creates value for the library. This orienteering workshop could also be incorporated as part of an Emerging Leadership Training Program that some university libraries have their staff participate in.

A strong bond has been created between the Library and the Outdoor Program, and a realization of the products and knowledge offered through the orienteering workshop will benefit future students. The two departments are already planning the next workshop slated for fall 2011.

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